

EPA Region III BTAG  
MARINE SEDIMENT SCREENING BENCHMARKS  
7/2006

CAS#	Analyte	Screening value (mg/kg)	Ref	End Note	Bioaccumulation <sup>9-B</sup>	
					Class of Compound	
71-55-6	1,1,1-Trichloroethane	0.856	a,b	1	Volatile	
79-34-5	1,1,2,2-Tetrachloroethane	0.202	a,b	1	Volatile	
127-18-4	1,1,2,2-Tetrachloroethylene (PCE)	0.19	a,b	1	Volatile	
79-00-5	1,1,2-Trichloroethane	0.57	a,b	1	Volatile	
79-01-6	1,1,2-Trichloroethene (TCE)	8.95	a,b	1	Volatile	
92-52-4	1,1-Biphenyl			2	PAH	
75-35-4	1,1-Dichloroethene (1,1-Dichloroethylene)	2.78	a,b	1	Volatile	
75-35-4	1,1-Dichloroethylene	2.78	a,b	1	Volatile	
634-66-2	1,2,3,4 Tetrachlorobenzene			2	Other Semi-Volatile	B
87-61-6	1,2,3-Trichlorobenzene			2	Other Semi-Volatile	
95-94-3	1,2,4,5-Tetrachlorobenzene	47	a,b	1	Other Semi-Volatile	B
120-82-1	1,2,4-Trichlorobenzene	0.473	a,b	1	Volatile	B
95-63-6	1,2,4-Trimethylbenzene				Volatile	B
95-50-1	1,2-Dichlorobenzene	0.989	a,b	1	Volatile	B
108-67-8	1,3,5-Trimethylbenzene			2	Volatile	
541-73-1	1,3-Dichlorobenzene	0.842	a,b	1	Volatile	B
542-75-6	1,3-Dichloropropene (1,3-Dichloropropylene)	0.00731	a,b	1	Volatile	
542-75-6	1,3-Dichloropropylene	0.00731	a,b	1	Volatile	
106-46-7	1,4-Dichlorobenzene	0.46	a,b	1	Volatile	B
99-99-0	1-Methyl-4-nitrobenzene (4-Nitrotoluene)			2	Other Semi-Volatile	
58-90-2	2,3,4,6-Tetrachlorophenol			2	Other Semi-Volatile	
1746-01-6	2,3,7,8-TCDD-Dioxin			2	Dioxin/Furans	B
51207-31-9	2,3,7,8-TCDF			2	Dioxin/Furans	B
93-72-1	2,4,5-TP (Silvex)			2	Volatile	
95-95-4	2,4,5-Trichlorophenol	0.819	a,b	1	Other Semi-Volatile	
93-76-5	2,4,5-Trichlorophenoxyacetic acid			2	Phenoxyaceticacid Herbicide	
88-06-2	2,4,6-Trichlorophenol	2.65	a,b	1	Other Semi-Volatile	
118-96-7	2,4,6-Trinitrotoluene (TNT)			2	Other Semi-Volatile	
120-83-2	2,4-Dichlorophenol			2	Other Semi-Volatile	
105-67-9	2,4-Dimethylphenol			2	Other Semi-Volatile	
121-14-2	2,4-Dinitrotoluene			2	Other Semi-Volatile	
95-57-8	2-Chlorophenol	0.344	a,b	1	Other Semi-Volatile	
91-57-6	2-Methylnaphthalene	0.0202	c	3	PAH	
91-94-1	3,3'- Dichlorobenzidine	2.06	a,b	1	Other Semi-Volatile	
101-55-3	4-Bromophenyl phenyl ether			2	Other Semi-Volatile	B
7005-72-3	4-Chlorophenyl- phenyl ether				Other Semi-Volatile	B
106-44-5	4-Methylphenol			2	Other Semi-Volatile	
99-99-0	4-Nitrotoluene			2	Other Semi-Volatile	
83-32-9	Acenaphthene	0.00671	c	3	PAH	B
208-96-8	Acenaphthylene	0.00587	c	3	PAH	B
309-00-2	Aldrin			2	Organochlorine Pesticide	B
120-12-7	Anthracene	0.0469	c	3	PAH	B
7440-36-0	Antimony			2	Inorganic/Metal	
12674-11-2	Aroclor 1016				Other Pesticide/PCB	B

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11104-28-2	Aroclor 1221				Other Pesticide/PCB	B
11141-16-5	Aroclor 1232				Other Pesticide/PCB	B
53469-21-9	Aroclor 1242				Other Pesticide/PCB	B
12672-29-6	Aroclor 1248				Other Pesticide/PCB	B
11097-69-1	Aroclor 1254	0.0633	d	4	Other Pesticide/PCB	B
11096-82-5	Aroclor 1260				Other Pesticide/PCB	B
7440-38-2	Arsenic	7.24	c	3	Inorganic/Metal	B
1912-24-9	Atrazine			2	Triazine Herbicide	
86-50-0	Azinophosmethyl (Guthion)	5.05E-05	a,b	1	Organophosphorus Pesticide	
71-43-2	Benzene	0.137	a,b	1	Volatile	
56-55-3	Benzo(a)anthracene	0.0748	c	3	PAH	B
50-32-8	Benzo(a)pyrene	0.0888	c	3	PAH	B
205-99-2	Benzo(b)fluoranthene				PAH	B
	Benzo(b+k)fluoranthene			2	PAH	
191-24-2	Benzo(g,h,i)perylene			2	PAH	B
207-08-9	Benzo(k)fluoranthene			2	PAH	B
65-85-0	Benzoic Acid			2	Other Semi-Volatile	
319-84-6	BHC, alpha	1.36	a,b	1	Organochlorine Pesticide	B
319-85-7	BHC, beta			2	Organochlorine Pesticide	B
319-86-8	BHC, delta			2	Organochlorine Pesticide	B
58-89-9	BHC, gamma (Lindane)	0.00032	c	3	Organochlorine Pesticide	B
	BHC (non Lindane)				Organochlorine Pesticide	
92-52-4	Biphenyl (1,1 Biphenyl)			2	Other Semi-Volatile	
117-81-7	Bis(2-Ethylhexyl) phthalate	0.182	c	3	Other Semi-Volatile	
75-25-2	Bromoform	1.31	a,b	1	Volatile	
85-68-7	Butyl benzyl phthalate	16.8	a,b	1	Other Semi-Volatile	
7440-43-9	Cadmium	0.68	c	3	Inorganic/Metal	B
63-25-2	Carbaryl (Sevin)	0.000669	a,b	1	Other Pesticide/PCB	
1563-66-2	Carbofuran			2	N-Methylcarbamate herbicide	
75-15-0	Carbon disulfide			2	Volatile	
56-23-5	Carbon tetrachloride	7.24	a,b	1	Volatile	
57-74-9	Chlordane	0.00226	c	3	Organochlorine Pesticide	B
108-90-7	Chlorobenzene	0.162	a,b	1	Volatile	
510-15-6	Chlorobenzilate			2	Other Pesticide/PCB	
2921-88-2	Chloropyrifos	0.0083	a,b	1	Organophosphorus Pesticide	B
7440-47-3	Chromium	52.3	c	3	Inorganic/Metal	
18540-29-9	Chromium VI				Inorganic/Metal	B
218-01-9	Chrysene	0.108	c	3	PAH	B
7440-48-4	Cobalt			2	Inorganic/Metal	
7440-50-8	Copper	18.7	c	3	Inorganic/Metal	B
98-82-8	Cumene			2	Volatile	
57-12-5	Cyanide, free			2	Inorganic/Metal	
72-54-8	DDD	0.00122	c	3	Organochlorine Pesticide	B

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72-55-9	DDE	0.00207	c	3	Organochlorine Pesticide	B
50-29-3	DDT (p,p')	0.00119	c	3	Organochlorine Pesticide	B
	DDT (op + pp)				Organochlorine Pesticide	B
	DDT, Total	0.00389	c	3	Organochlorine Pesticide	
333-41-5	Diazinon			2	Other Pesticide/PCB	B
53-70-3	Dibenzo(a,h)anthracene	0.00622	c	3	PAH	B
132-64-9	Dibenzofuran	7.3	a,b	1	Other Semi-Volatile	
542-75-6	Dichloropropene (1,3-Dichloropropylene)	0.00731	a,b	1	Volatile	
115-32-2	Dicofol (Kelthane)				Other Pesticide/PCB	B
60-57-1	Dieldrin	0.00072	c	3	Organochlorine Pesticide	B
84-66-2	Diethylphthalate	0.218	a,b	1	Other Semi-Volatile	
84-74-2	Di-n-butylphthalate	1.16	a,b	1	Other Semi-Volatile	
88-85-7	Dinoseb			2	Other Pesticide/PCB	
298-04-4	Disulfoton				Pesticide	B
1031-07-8	Endosulfan sulfate	0.000357	a,b	1	Organochlorine Pesticide	
959-98-8	Endosulfan I (a-endosulfan)			2	Organochlorine Pesticide	B
33213-65-9	Endosulfan II (b-endosulfan)			2	Organochlorine Pesticide	B
115-29-7	Endosulfan (alpha and beta)	0.000107	a,b	1	Organochlorine Pesticide	B
72-20-8	Endrin	0.00267	d	4	Organochlorine Pesticide	B
100-41-4	Ethylbenzene	0.305	a,b	1	Volatile	
206-44-0	Fluoranthene	0.113	c	3	PAH	B
86-73-7	Fluorene	0.0212	c	3	PAH	B
86-50-0	Guthion	5.05E-05	a,b	1	Other Pesticide/PCB	
319-84-6	HCH, a- (BHC, alpha)	1.36	a,b	1	Organochlorine Pesticide	
58-89-9	HCH, gamma (Lindane)(BHC, gamma)	0.00032	c	3	Organochlorine Pesticide	
76-44-8	Heptachlor			2	Organochlorine Pesticide	B
	Heptachlor & Heptachlor epoxide				Organochlorine Pesticide	B
1024-57-3	Heptachlor Epoxide	0.0006	d	4	Organochlorine Pesticide	B
118-74-1	Hexachlorobenzene			2	Other Semi-Volatile	B
87-68-3	Hexachlorobutadiene				Volatile	B
608-73-1	Hexachlorocyclohexanes (HCH, BHC)				Organochlorine Pesticide	B
77-47-4	Hexachlorocyclopentadiene	0.139	a,b	1	Organochlorine Pesticide	B
67-72-1	Hexachloroethane	0.804	a,b	1	Volatile	B
110-54-3	Hexane			2	Volatile	
193-39-5	Indeno(1,2,3-c,d)pyrene			2	PAH	B
7439-89-6	Iron			2	Inorganic/Metal	
98-82-8	Isopropylbenzene (Cumene)			2		
7439-92-1	Lead	30.2	c	3	Inorganic/Metal	B
58-89-9	Lindane (BHC, gamma)	0.00032	c	3	Organochlorine Pesticide	
121-75-5	Malathion	0.00021	a,b	1	Other Pesticide/PCB	
7439-96-5	Manganese			2	Inorganic/Metal	
7439-97-6	Mercury	0.13	c	3	Inorganic/Metal	
72-43-5	Methoxychlor	0.0296	a,b	1	Organochlorine Pesticide	B

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22967-92-6	Methylmercury				Volatile	B
2385-85-5	Mirex			2	Chlorinated Pesticides	B
108-90-7	Monochlorobenzene (Chlorobenzene)	0.162	a,b	1		
91-20-3	Naphthalene	0.0346	c	3	PAH	
84-74-2	n-Butylphthalate (Di-n-butylphthalate)	1.16	a,b	1	Other Semi-Volatile	
7440-02-0	Nickel	15.9	c	3	Inorganic/Metal	B
55-18-5	N-Nitrosodiethylamine			2	Other Semi-Volatile	
86-30-6	N-Nitrosodiphenylamine	422	a,b	1	Other Semi-Volatile	
	High Molecular Weight PAHs	0.655	c	3	PAH	
	Low Molecular Weight PAHs	0.312	c	3	PAH	
SEQ NO-27-3	PAHs, total	2.9	e	5,6	PAH	
56-38-2	Parathion	0.0104	a,b	1	PAH	
1336-36-3	PCBs, total	0.04	f	5	Other Pesticide/PCB	
106-44-5	p-Cresol (4-Methylphenol)			2	Other Semi-Volatile	
608-93-5	Pentachlorobenzene	191	a,b	1	Other Semi-Volatile	B
76-01-7	Pentachloroethane			2	Other Semi-Volatile	
82-68-8	Pentachloronitrobenzene				Pesticide	B
87-86-5	Pentachlorophenol	7.97	a,b	1	Other Semi-Volatile	
62-44-2	Phenacetin				Other Semi-Volatile	B
85-01-8	Phenanthrene	0.0867	c	3	PAH	
108-95-2	Phenol			2	Other Semi-Volatile	B
100-42-5	Phenylethylene	7.07	a,b	1	Other Semi-Volatile	
298-02-2	Phorate			2		
51207-31-9	Polychlorinated dibenzofurans			2	Dioxins/Furans	
	Polychlorinated dibenzo-p-dioxins (PCDD-S)			2	Dioxins/Furans	
129-00-0	Pyrene	0.153	c	3	PAH	B
121-82-4	RDX (Cyclonite)			2	Explosive	
7782-49-2	Selenium			2	Inorganic/Metal	B
7440-22-4	Silver	0.73	c	3	Inorganic/Metal	B
100-42-5	Styrene (Phenylethylene)	7.07	a,b	1	Volatile	
18946-25-8	Sulfides			2	Anion	
95-94-3	Tetrachlorobenzene (1,2,4,5-tetrachlorobenzene)	47	a,b	1	Other Semi-Volatile	
79-34-5	Tetrachloroethane (1,1,2,2-Tetrachloroethane)	0.202	a,b	1	Volatile	
127-18-4	Tetrachloroethene (1,1,2,2-Tetrachloroethylene)	0.19	a,b	1	Volatile	
127-18-4	Tetrachloroethylene (1,1,2,2-Tetrachloroethylene)	0.19	a,b	1	Volatile	
56-23-5	Tetrachloromethane (Carbon tetrachloride)	7.24	a,b	1	Volatile	
108-88-3	Toluene	1.09	a,b	1	Volatile	
8001-35-2	Toxaphene	0.536	a,b	1	Organochlorine Pesticide	B
156-60-5	trans-1,2-Dichloroethylene (1,2-trans-Dichloroethylene)			2	Volatile	
75-25-2	Tribromomethane (Bromoform)	1.31	a,b	1	Volatile	
688-73-3	Tributyltin				Inorganic/Metal	B
79-00-5	Trichloroethane (1,1,2-Trichloroethane)	0.57	a,b	1	Volatile	
79-01-6	Trichloroethene (Trichloroethylene)	8.95	a,b	1	Volatile	

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					Class of Compound	
79-01-6	Trichloroethylene	8.95	a,b	1	Volatile	
1582-09-8	Trifluralin			2		
100-42-5	Vinyl benzene (Phenylethylene)	7.07	a,b	1	Volatile	
75-35-4	Vinylidene chloride (1,1 Dichloroethylene)	2.78	a,b	1	Volatile	
108-38-3	Xylene, m-			2	Volatile	
7440-66-6	Zinc	124	c	3	Inorganic/Metal	B

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LITERATURE CITED

- <sup>a</sup>Region III BTAG Marine Screening Benchmarks. 2004. <http://www.epa.gov/reg3hwmd/risk/eco/btag/sbv/marine/screenbench.htm>
- <sup>b</sup>Karickhoff, S.W. and J.M. Long. Environmental Research Laboratory. U.S. EPA.1995. Internal Report on Summary of Measured, Calculated and Recommended Log K<sub>ow</sub> Values.
- <sup>c</sup>MacDonald, D.D., R.S. Carr, F.D. Calder, E.R. Long, and C.G. Ingersoll. 1996. Development and evaluation of sediment quality guidelines for Florida coastal waters. *Ecotoxicology*. 5: 253-278.
- <sup>d</sup>CCME (Canadian Council of Ministers of the Environment). 2003. Canadian Environmental Quality Guidelines: Summary Table December 2003. Canadian Council of Ministers of the Environment, Winnipeg, Manitoba. Available at [http://www.ccme.ca/publications/cegg\\_rcqe.html](http://www.ccme.ca/publications/cegg_rcqe.html)
- <sup>e</sup>Swartz, R.C. 1999. Consensus Sediment Quality Guidelines for Polycyclic Aromatic Hydrocarbon Mixtures. *Environmental Toxicology and Chemistry*. 18(4): 780-787.
- <sup>f</sup>MacDonald, D.D., L.M. Dipinto, J. Field, C.G. Ingersoll, E.R. Long, and R.C. Swartz. 2000. Development and Evaluation of Consensus-Based Sediment Effect Concentrations for Polychlorinated Biphenyls. *Environmental Toxicology and Chemistry*. 19 (5): 1403-1413.
- <sup>g</sup>U.S. EPA. 2000. Bioaccumulation Testing and Interpretation for the Purpose of Sediment Quality Assessment. Available at: <http://www.epa.gov/waterscience/cs/biotesting/bioaccum.pdf>

ENDNOTES

- <sup>1</sup>Value derived from the EqP method with Region III marine values (2004<sup>a</sup>) and logKow values from Karickhoff and Long (1995<sup>b</sup>). Only logKow values between 2 and 6 were used, as suggested by the EPA (2000<sup>g</sup>).
- <sup>2</sup>Currently no marine sediment value is available. Refer to US EPA Region 3's Freshwater Sediment Screening Benchmark table for a value.
- <sup>3</sup>Threshold Effect Level.
- <sup>4</sup>Interim Sediment Quality Guideline.
- <sup>5</sup>Consensus-based Threshold Effect Concentration.
- <sup>6</sup>Original value 290ug/gOC, 1% organic concentration, value converted to 2.9ug/g dry wt = 2.9mg/kg dry wt.